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EXAMINER
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JOHNSON, STEPHEN

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/027,727  
Filing Date: December 21, 2001  
Appellant(s): HAN, CHENGHUA OLIVER

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Fred G. Pruner Jr.  
For Appellant

**EXAMINER'S ANSWER**

**MAILED**

**DEC 04 2007**

**GROUP 3600**

This is in response to the appeal brief filed 10/21/2004.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief was correct.

Art rejections with regard to DT 1 234 584 (the German reference) are withdrawn.

Claims 1, 7, 17-18, 22-23, 25, 27-28, 30, 33, and 35 are rejected under 35 USC 102.

Claims 3, 6, 19, and 34 are objected to as being dependent upon rejected claims.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct. The amendment after final filed on 6/14/2004 has been entered because it reduces the issues on appeal.

**(5) *Summary of claimed Subject Matter***

The summary of the claimed subject matter contained in the brief is correct.

**(6) *Grounds of Rejection to be Reviewed on Appeal***

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The appellant's statement of the grounds of rejection to be reviewed in the brief is not correct. The changes are as follows: Item B directed to Renfro in view of the German reference and item D directed to the German reference as applied under 35 USC 102 are withdrawn.

The rejection of claims 1, 7, 17, 22-23, 25, 27-28, 30, 33, and 35 under 35 USC 102(e) is maintained (item A).

The rejection of claims 17-18 under 35 USC 102(b) is maintained (item C).

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

6,619,176 B2	Renfro et al.	9-2003
5,619,008	Chawla et al.	4-1997

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

A. Claims 1, 7, 17, 22-23, 25, 27-28, 30, 33, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Renfro et al..

Renfro et al. disclose a perforating system and associated method comprising:

- |  |                     |
|--|---------------------|
| a) a shaped charge with charge case;                           | 14, 50, 60          |
| b) an explosive material;                                      | 28                  |
| c) a plurality of slots about which the charge case fractures; | col. 5, lines 39-50 |
| d) a liner; and  | 50                  |

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e) a perforating string having a plurality of shaped charges. col. 1, lines 8-12

C. Claims 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Chawla et al..

Chawla et al. disclose a perforating system and associated method comprising:

a) a shaped charge with charge case; 36 (see fig. 4)

b) an explosive material; 18

c) a plurality of slots about which the charge case fractures; 46

d) a liner; and 22

e) a perforating string having a plurality of shaped charges. see fig. 5

#### **(10) Response to Argument**

Applicant's arguments are addressed as follows:

A. Applicant argues that Renfro et al. is directed to a liner and that there is no teaching to suggest that housing 12 is adapted to fracture about any troughs. This is partially correct. Note that applicant has claimed "the charge case defining at least one slot about which the charge case is adapted to fracture". The charge case is comprised of both housing 12 as well as liner 50 with associated skirt 60. It is that portion of skirt 60 which defines a slot about which the charge case is adapted to fracture (see col. 5, lines 39-50). Applicant further argues that the housing 12 does not contain a slot that fractures on detonation of the explosive material. Note that the liner 50 portion of the casing and not the housing portion of the casing is being relied upon to meet this claim limitation. See the attached Webster's definitions regard the term "case". "1. a container, as a box, crate, sheath, folder, etc. 2. a protective cover or covering part". Applicant further argues that there is no slot in the charge case about which the cartridge case is adapted to fracture. In response, note col. 5, lines 39-50; col. 3, lines 63-67; and col. 4, lines 1-14. Note that

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the liner portion of the cartridge case is made of a non-explosive material (col. 4, lines 52-56) and that its striations are explicitly placed there to aid in debris removal. This is the same intended purpose as applicant. Applicant again argues that there are no striations in the housing 12. However, the liner portion of the casing and not the housing portion of the casing is being relied upon to meet this claim limitation. Note attached Webster's definition of the term "casing" "2. a covering or protective outside part".

C. Applicant's arguments are addressed as follows. It is argued that Chawla et al. is directed to a method of manufacturing or manufacturing process. In response, it is this manufacturing process in combination with the subsequent placement of the shape charges with associated charge case that is being relied upon to meet applicant's claim limitations. It is further argued that there is no teaching of a charge case that defines a slot about which the charge case is adapted to fracture. Score marks 46 are being relied upon to meet this claim limitation. Their fracture during manufacturing provides a slot about which charge case 36 fractures during manufacturing (see col. 3, lines 64-67). Subsequent to manufacturing the charge cases 36 with associated shaped charge strings 38 are conveyed into the well. Note that element 36 is explicitly described as performing the combined function of base 10 and liner 22 (see col. 3, lines 43-45). Certainly base 10 in combination with liner 22 meets the claim limitation directed to "a charge case". Further, it would not be possible to perform the claimed function of making a clean break to separate the assemblies during manufacture (see fig. 4) if only the surface of the liner were fractured.

It is argued that a liner does not constitute a charge case of a shaped charge. In response, note liner 36 in fig. 4. Also note that liner 36 performs both the function of a base 10 and liner 22

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(see col. 3, lines 42-45). Further note that the score markings 46 in fig. 4 are located on both sides of liner 36 so that which every side is considered to include the casing or housing, it must have an associated scoring (see fig. 4). It is argued that there is no disclosure that liner 36 fracture about the score marks. In response, note col. 3, lines 64-67, where Chawla specifically states using the scoring marks to form clean breaks in the liner. It is further argued that there is no disclosure that any portion of the scoring even exist after manufacturing. In response, this is not a requirement. All that is necessary is that the scoring be present in the four-corners of the reference. Further, clearly remnants of the scoring would be present after breaking and separation into smaller individual liners once liner 36 was separated into a plurality of smaller liners for insertion into a well-bore.

With regard to the arguments that liner 36 is part of a solid sheet and the score marks are formed in the sheet to facilitate breaking during manufacture, since these issues are not directed to what is actually being claimed they need not be further addressed. Certainly, a method of manufacturing is a step in the use of a shaped charge because the shaped charge must be formed before it can be installed and ignited in a bore hole.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,

/Stephen M. Johnson/  
Primary Examiner,  
Art Unit 3641

*Stephen M. Johnson*

SMJ

November 20, 2007

Conferees

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